

A new *Metisella* species from the montane forests of Southern Tanzania (Lepidoptera: Hesperiiidae)

by

R. de JONG

Rijksmuseum van Natuurlijke Historie, Leiden

&

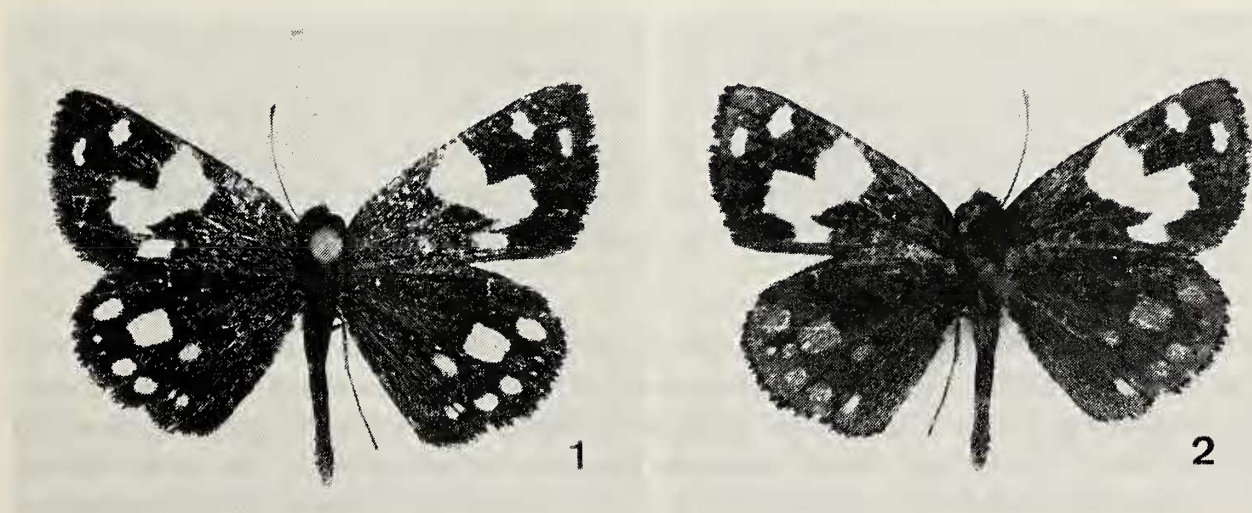
J. KIELLAND

ABSTRACT. — East African montane forests are interesting biogeographically, because of their isolation, which has led to various degrees of endemism. *Metisella congdoni* is described as a new species endemic to montane forests of Southern Tanzania. It belongs to a group of species which are predominantly restricted to the montane forests of East Africa.

The East African montane forest fauna is biogeographically of particular interest. At present montane forests lie scattered over East Africa like an archipelago. It was once thought that they formed a continuous area during the cooler glacial periods, and the lower limit of the montane forest, which lies now at an altitude of about 1500 m, was supposed to have been down to 500 m (Moreau, 1966). However, this theory receives no support from recent investigations and possibly the forests have in late Tertiary and Quaternary times never been more extensive than at present (Hamilton, 1981). This would mean that the endemic species of the forests originated by isolation after dispersal across uninhabitable areas, and not by fragmentation of a once continuous habitat. Some work has been done on the montane forest fauna (e.g., Kingdon, 1981; Rodgers & Homewood, 1982; Rodgers, Owen & Homewood, 1982; Stuart, 1981), but the butterflies of this habitat have not yet been studied comprehensively. An interesting group of species in this respect is the *orientalis* group of the genus *Metisella* (Evans, 1937), the species of which are more or less restricted to montane forests. As a preliminary to future studies in this field we present the description of a new *Metisella* species from the montane forests of Southern Tanzania.

Metisella congdoni spec. nov.

External characters (figs. 1, 2). — Male, female. Length of forewing 12.4-14.6 mm. Antenna plain black or indistinctly checkered, underside of club orange-yellow with brown to black-



Figs 1-2. *Metisella congdoni* spec. nov., holotype. 1, Upperside; 2, underside.



Figs 3-6. Male and female genitalia of *Metisella congdoni* spec. nov. 3, Dorsal view of uncus and tegumen; 4-5, inner view of right (4) and left (5) valva; 6, lateral view of female genitalia; 7, ventral view of sterigma and antrum.

brown nudum. Upperside black with orange-yellow spots; basal third of forewing and greater part of hindwing covered with orange-yellow scales, which may be condensed into a vague spot on the costa of the forewing. Upperside of forewing with spots in spaces lb, 2, 3, cell, 10 and 11 conjoined into a very irregular band from vein 1 to costa (in one male the band is broken between spot 2 and cell spot); spots in spaces 4-5 well developed, conjoined into a single, elongate spot close to termen; spots in spaces 6-8 (subapical spots) well developed, not separated by dark veins; fringes black. Upperside of hindwing with well marked central spot (is combined

median spots in spaces 4-5) and a more or less well marked median spot in space 2 (and in one female a vague spot in space 7); submarginal spots at least in spaces 2, 3 and 6, usually a double spot in space 1b, sometimes more or less visible submarginal spots in spaces 4-5; fringes black, may be indistinctly orange distally. Underside of forewing as upperside, spots a little more extensive, apex brown (i.e. lighter than ground colour) of same shade as hindwing, basal orange-yellow powdering restricted, only in cell and along costa. Underside of hindwing dark chocolate brown, with the orange-yellow spots of the upperside marked in light brown or rubiginous, often dark-edged; in females ground colour and spots lighter, more yellowish; lower submarginal spot in space 1b usually yellow; base of costa strikingly scaled orange-yellow (but the scales are apparently easily lost by handling).

Male genitalia (figs. 3-5). — Tegumen more or less shouldered in dorsal view. Apex of uncus truncate. Valvae slightly asymmetric; right valva with cucullus bent upwards, strongly spined in apical part where it overlaps and reaches beyond costa, which is indistinct in basal half, well marked triangular in distal half, with lower angle (where it joins the cucullus) 90°-100°, and with apex upturned and finely spined; left valva with cucullus slenderer in apical part, more strongly bent, and not reaching beyond the somewhat broader costal triangle.

Female genitalia (figs. 6, 7). — Postvaginal plate slightly sclerotized, consisting of two concave plates the edges of which are sharp medially, leaving a narrow longitudinal gutter from the ostium to the apical indentation. Ostium wide, flanked by elongate outgrowths of the lightly sclerotized antrum that slightly narrows towards the ductus bursae and is a little bit longer than the width of the ostium. No antevaginal sclerite. Ductus bursae lightly sclerotized near antrum, then membranous and after a short distance expanding into an elongate bursa that is bipartite by a central constriction. Tergite of 8th abdominal segment greatly membranous, more strongly sclerotized towards the postvaginal plate. Papillae anales quadrate in lateral view.

Material examined. — Holotype, ♂, Tanzania, Mufindi, Kireme, 5900', 17.VII.1982, T. C. E. Congdon (Rijksmuseum van Natuurlijke Historie, Leiden). Paratypes, 12 ♂, 6 ♀: 1 ♀, Tanzania, Mufindi, Chaminga Esc., 6100', 20.I.1982, T. C. E. Congdon (Rijksmuseum van Natuurlijke Historie, Leiden); 1 ♂, Tanzania, Mufindi, Luisenga, 5800', 18.II.1982, T. C. E. Congdon (Rijksmuseum van Natuurlijke Historie, Leiden); 6 ♂, 2 ♀, idem, 1750-1800 m, 27-29.III.1982, J. Kielland (Coll. Kielland); 1 ♂, 1 ♀, Tanzania, Mufindi, Luipanga Riv., 1750 m, 21.III.1982, J. Kielland (Coll. Kielland); 1 ♀, Tanzania, Mufindi, Logoda, 1950 m, 23.III.1982, J. Kielland (Coll. Kielland); 4 ♂, 1 ♀, Tanzania, Tukuyu, Rungwe Mission, 1550-1650 m, 11-16.XI.1982, J. Kielland (Coll. Kielland).

Note. — The species is named after Mr. T. C. E. Congdon, in honour of his investigations of the montane fauna of Southern Tanzania.

Discussion. — The slightly shouldered tegumen, blunt-ended uncus, and asymmetric valves are typical for the *Metisella orientalis* group of species. Externally the new species is easily distinguished by the much enlarged spots of the forewing forming a very irregular, unbroken band. *M. decipiens* also has a broad band on the forewing, but in this species the band includes the median spots in spaces 4-8 and there is no cell spot. In the other species of the *orientalis* group the spots do not form an unbroken band. In a few females of uncertain position in Coll. Kielland, from South Pare Mts. (2 ♀) and West Usambara, Mazumbai (2 ♀), the spots also touch. These localities are far from the Southern Tanzanian highlands where *M. congdoni* occurs, lying in the northeastern part of the country. Since males of *M. orientalis* (easily recognized by the rounded apex of uncus) are known from Mazumbai, it seems likely that the females from this area belong to *M. orientalis* as well, and not to *M. congdoni*, although elsewhere females of *M. orientalis* always have the spots separate. Unfortunately we could not yet find distinguishing characters in the female genitalia of the new species. It is possible that there is a difference with *M. orientalis* in the proportions of ostium and antrum, but longer series are needed for a more pertinent statement.

LITERATURE

- Evans, W. H., 1937. *A. Catalogue of the African Hesperidae in the British Museum: I-XII*, 1-212, pls 1-30. British Museum (Natural History), London.
- Hamilton, A. C., 1981. The quaternary history of African forests: its relevance to conservation. — *Afr. J. Ecol.* 19: 1-6.
- Kingdon, J., 1981. Where have the colonists come from? A zoogeographical examination of some mammalian isolates in eastern Africa. — *Afr. J. Ecol.* 19: 115-124.
- Moreau, R. E., 1966. *The bird faunas of Africa and its islands: I-VIII*, 1-424. Academic Press, London and New York.
- Rodgers, W. A., & K. M. Homewood, 1982. Species richness and endemism in the Usambara mountain forests, Tanzania. — *Biol. J. Linn. Soc.* 18: 197-242.
- Rodgers, W. A., C. F. Owen, & K. M. Homewood, 1982. Biogeography of East African forest mammals. — *J. Biogeogr.* 9: 41-54.
- Stuart, S. N., 1981. A comparison of the avifaunas of seven east African forest islands. — *Afr. J. Ecol.* 19: 133-151.

P.O. Box 9517, 2300 RA Leiden.
4916 Boröy, Norway.

Achrysocharoides species in the Netherlands (Hymenoptera: Eulophidae)

by

GEORGINA BRYAN

Vakgroep Diersystematiek en Zoögeografie, Vrije Universiteit, Amsterdam

ABSTRACT. — Six species are recorded for the first time from the Netherlands: *Achrysocharoides acerianus* (Askew), *A. carpini* Bryan, *A. cilla* (Walker), *A. latreillii* (Curtis), *A. splendens* (Delucchi) and *A. suprafolius* (Askew). The occurrence of *A. atys* (Walker) is confirmed. Three forms of *A. splendens* were also reared; two of these (from *Ulmus* and from *Lonicera*) are described as new.

Introduction

The world-wide genus *Achrysocharoides* forms part of the *Chrysocharis* complex, within which it is distinguished by the T-shaped frontal fork, densely pubescent eyes and a short post-marginal vein. Taxonomy of the eleven British species has been discussed in an earlier paper (Bryan, 1980a), as has courtship and oviposition behaviour (Bryan, 1980b). *Achrysocharoides* species parasitise leaf-mining larvae, principally of the genus *Phyllonorycter* Hübner (Lep.: Gracillariidae). Unlike the majority of eulophid leaf-miner parasites they are not polyphagous and only attack *Phyllonorycter* hosts on a single tree species, genus or family (Askew & Shaw, 1974); they are also commonly gregarious rather than solitary (Askew & Ruse, 1974; Bryan, 1983).

Over a three year period (1979-1982) *Phyllonorycter* mines were occasionally collected from a handful of localities within the Netherlands. Amongst the relatively small number of parasites reared (from mines tubed separately in small, corked, glass specimen tubes) were nine *Achrysocharoides* species, six of which represent new records for the Netherlands. Further, specimens reared for the first time from *Ulmus* and additional Dutch material from *Lonicera* make possible the description of two more forms of *A. splendens*.